UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

Metropolitan Sanitary District
100 East Erie
Chicago, Illinois 60611

ATTENTION: Stanley Whitebloom

Re: Lemont Wells

Dear Mr. Whitebloom:

Attached are copies of the test results performed on water samples taken from several private wells on the perimeter of the J.J. Schultz Company in Lemont, Illinois. All of the test results were within the United States Environmental Protection Agency drinking water limitations. Only samples No. VL05S04, VL05S06, and VL05S08 had some questionable results. However, these results were felt to be due to laboratory error, rather than actual sample contamination. In the case of the chromium results for samples No. VL05S04 and VL05S08, they were over the maximum contaminate drinking water levels; but well within the range of experimental error associated with the running of the chromium test. In the case of sample No. VL05S06, duplicate testing was performed in order to double check the original high lead and cyanide test results. The duplicate testing indicated that both the lead and cyanide concentrations of the sample were well within acceptable levels.

Please let me know if I can be of any further assistance to you in this matter.

Very truly yours,

Ron Kovach
U.S. Environmental Protection Agency

Analytical Results of

Data Set EEIB 299

Lemont; Illinois Monitoring Wells

August 4, 1980

Organic Laboratory Section

U.S. Environmental Protection Agency

Region V

Central Regional Laboratory

536 South Clark Street

Chicago, Illinois 60605

EEIB 299 - Lemont, Illinois Monitoring Wells

Objective:

The following nine (9) samples were collected from the Monitoring Wells at Lemont, Illinois by the Environmental Emergency Investigation Branch (EEIB) on June 26, 1980. These samples were analyzed quantitatively by computerized GC/MS and GC/FID for any organic compound present.

Sample Number	Description
80-VL05S01	8 West New Avenue - 9:00am
80-VL05S02	108 West New Ave. - 11:00am
80-VL05D02	108 West New Ave. - 11:00am
80-VL05S04	34 West New Ave. - 12:00noon
80-VL05R04	34 West New Ave. - 12:00noon
80-VL05S06	191 Nat. Park Rd. - 1:00pm
80-VL05D06	191 Nat. Park Rd. - 1:00pm
80-VL05S08	136 West New Ave. - 9:30am
80-VL05S09	140 West New Ave. - 10:00am

Results:

No detectable amounts of organics ("extractable" or "purgeable") were detected in any of the samples. The detection limits were approximately 20ppb for "extractables" and 0.20ppb for "purgeables".

Methodology:

The water samples were analyzed by the liquid-liquid extraction method. They were extracted three times at neutral pH with methylene chloride. The organic fraction was then dried over anhydrous sodium sulfate which was previously washed with methylene chloride. The extracts were transferred to Kuderna-Danish flasks equipped with 10ml receivers and snyder columns and then concentrated on a steam bath for GC/MS analysis.

Volatile organics were analyzed by the purge and trap method. This method entails purging of an aliquot (5ml) of each sample with nitrogen gas and subsequently trapping the purged organics on a short stainless steel column (approx. 5" x 1/4") packed with tenax GC 80/100. The tenax is then desorbed by heating and the free volatile organics are routed into the gas chromatograph

INSTRUMENTAL CONDITIONS

Extractables:

Instrument: Hewlett Packard 5985A GC/MS/DS
Column: 25m x 0.2mm sp-2100 Fused Silica Capillary
Mode of Operation: Splitless Injection
Septum Vent: 6 ml/min.
Column Head Pressure: 10 psi
Linear Velocity: 25 cm/sec.
Carrier Gas: Helium

Mass Range: 05-500amu
Electron Voltage: 70ev
Electron Multiplier Voltage: 2200v
Threshold: 10
Temperature Program:
T_1: 40°C
T_2: 250°C
Time at T_1: 1 min.
Time at T_2: 10 min.
Rate: 40-150°C by 15°C/min.
100-250°C by 6°C/min.

Volatiles:

Instrument: Varian 1400 gas chromatograph
Detector: Flame Ionization
Temperature: 170°C
Air Flow: 300 ml/min.
Hydrogen Flow: 40 ml/min.
Column: 6' x 1/8" glass column packed with 0.2% carbowax 1500 on carbo-pack-c 80/100
Collection Column: Tenax GC (60/80): 6" x 1/8" (ss)
Sampling Flow: 45 ml/min.
Desorption Time: 6 min.
Desorption Temp.: 200°C
Injection Time: 4 min.
Temperature Program: Initial Temperature: 40°C
Final Temperature: 150°C
Programming Rate: 8°C/min.
Carrier Gas Flow: 30 ml/min. (nitrogen gas)
Injector Temperature: 160°C

Quailty Control:

A laboratory reagent blank, field blank and several duplicate samples, were analyzed along with the samples to check the method performance. A control standard containing a mixture of nonvolatile organics was also analyzed along with these samples. All of the quality control samples gave acceptable results.

Participants:

K.C. Hsia, Chemist
A. Kontrovitz, Chemist
S. Kim, Author

ENVIRONMENTAL PROTECTION AGENCY, REGION V, CRL

EEIB DATA

07-07-80

SET NO. 299

OK 7/7/80

Lemont Illinois Metals Data

JVM 7 July 80

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AG	AL	B	BA	BE	CD	CO
UNITS	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
VL05S01	149	66.3	91.8	K 3	K 90	467	31	K 1	K 2	K 5
2	142	64.5	38.2	K 3	K 90	455	14	K 1	K 2	K 5
4	166	73.7	135	K 3	K 90	614	32	K 1	K 2	K 5
6	107	48.7	277	K 3	K 90	1110	67	K 1	K 2	K 5
8	173	84.8	59.8	K 3	K 90	387	15	K 1	K 2	K 5
9	149	69.0	38.6	K 3	K 90	451	14	K 1	K 2	K 5
D02	145	64.8	39.7	K 3	K 90	489	14	K 1	K 2	K 5
D06	103	48.0	270	K 3	K 90	1180	66	K 1	K 2	K 5
R04	K5.0	K0.1	K1.2	K 3	K 90	K 80	K 5	K 1	K 2	K 5

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
VL06S01	48	17	150	25	K 10	K 30	K 30	K100	K 6	K 5
2	45	12	380	15	K 10	K 30	K 30	K100	K 6	K 5
4	51	7	463	26	K 10	K 30	K 30	K100	K 6	K 5
6	25	K 6	914	71	K 10	K 30	3570	K100	K 6	K 5
8	66	12	4350	55	K 10	K 30	K 30	K100	K 6	12
9	50	K 6	1370	44	K 10	K 30	K 30	K100	K 6	6
D02	44	10	383	12	K 10	K 30	K 30	K100	K 6	K 5
D06	28	14	767	69	K 10	K 30	K 30	K100	K 6	K 5
R04	K 5	K 6	K120	K 5	K 10	K 30	K 30	K100	K 6	K 5

PARAMETER #	01203	01092	
SAMPLE ID.	Y	ZN	XX
UNITS	UG/L	UG/L	UG/L
VL05S01	K 5	195	N.A.
2	K 5	512	N.A.
4	K 5	275	N.A.
6	K 5	106	N.A.
8	14	817	N.A.
9	8	78	N.A.
D02	K 5	515	N.A.
D06	K 5	122	N.A.
R04	K 5	K 50	N.A.

Pb confirmed in VL05S06, not found in VL05D06

JVM 7 July 80

Sampling Date 6-26-80

Sample Number	Description	NH_3	TOC	Cyanide
80-VL05S01	8 West New Avenue - 9:00am	K0.03	10	K 5
80-VL05S02	108 West New Ave. - 11:00am	0.06	9	K 5
80-VL05D02	108 West New Ave. - 11:00am	0.12	31	K 5
80-VL05S04	34 West New Ave. - 12:00 noon	0.04	19	K 5
80-VL05R04	34 West New Ave. - 12:00 noon	empty bottle	K3	K 5
80-VL05S06	191 Nat. Park Rd. - 1:00pm	0.32	29	K 5
80-VL05D06	191 Nat. Park Rd. - 1:00pm	0.31	27	.011
80-VL05S08	136 West New Ave. - 9:30am	0.60	.21	K 5
80-VL05S09	140 West New Ave. - 10:00am	0.44	31	K 5

*Note, "K" means less than

*Note$_2$, all concentrations are expressed at mg/l.